



**NOTE:** This one-page document is intended **only as a quick reference for installation** – please read the SP Controls Application Note for a complete description of this projector driver prior to installation.

## I. Driver Features

### 1. Input Selection Mapping

Selection 1:	VIDEO
Selection 2:	S-VIDEO
Selection 3:	RGB
Selection 4:	NETWORK

### 2. Hidden Function Mapping (Default Configuration)

Using the ON button as a shift key, press the following buttons to access the specified projector features.

Selection 1:	AV MUTE
Selection 2:	ENTER
Selection 3:	ADJUST LEFT
Selection 4:	ADJUST RIGHT
Off:	MENU
Volume Up:	ADJUST UP
Volume Down:	ADJUST DOWN

### 3. Other Driver Features

Power Status Feedback Method	RS-232 Power Polling
Control Wiring:	RS-232 and IR-Emitter

## II. Wiring Specifications

**NOTE:** The Panasonic PT-LB10VU projector serial port is a female 8-pin mini-DIN. This document provides instructions for terminating the RS-232 control cable directly onto an 8-pin mini-DIN connector. If you wish to terminate the control cable on a standard DB9 connector, an adaptor cable may be separately ordered from Panasonic (Panasonic part no. *ET-ADSER*).

### 1. RS-232:

Wire the Panel RS-232 port to a male 8-pin mini-DIN as follows:

RX to	5
TX to	3
GND to	4

Connect this male DB9 to the projector port labeled *SERIAL*.

### 2. Infrared Emitter:

Wire the Panel IR/Serial port to a female 1/8" Mini as follows:

IR/SER to	<i>tip</i>
GND to	<i>ring</i>

Connect to the included IR Emitter and attach the emitter bud to any projector IR window.



This document describes the SmartPanel Projector Driver for the **Panasonic PT-LB10VU** projector. This driver is also appropriate for use with the Panasonic **PT-LB10VU** projector. For more information on configuring and using the Panel see the *SmartPanel Configuration and Installation Manual*.

## I. PROJECTOR CONTROL

### A. Volume and Power Control

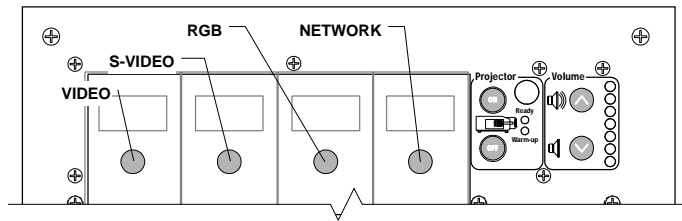
Volume control on the Panasonic is **absolute**.

### B. Input Selection Mapping

The following table specifies the factory-preset input mapping for this Driver. The **Configuration Utility** can be used to customize these settings your installation.

<i>Selection 1:</i>	VIDEO
<i>Selection 2:</i>	S-VIDEO
<i>Selection 3:</i>	RGB
<i>Selection 4:</i>	NETWORK

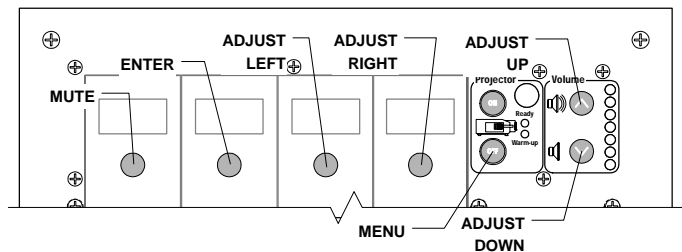
Input choices available for the Panasonic with this Driver are VIDEO, S-VIDEO, RGB and NETWORK.



### C. Hidden Function Mapping

The following table specifies the factory preset hidden function mapping for this Driver. The **Configuration Utility** can be used to customize these settings your installation.

<i>Selection 1:</i>	AV MUTE
<i>Selection 2:</i>	ENTER
<i>Selection 3:</i>	ADJUST LEFT
<i>Selection 4:</i>	ADJUST RIGHT
<i>Off:</i>	MENU
<i>Volume Up:</i>	ADJUST UP
<i>Volume Down:</i>	ADJUST DOWN



Hidden functions names are based on the Panasonic remote and controls on top of the projector. *Adjust* controls navigate through onscreen menus. Hidden functions are accessed by pressing the indicated key while the holding the **On** key down.

*AV MUTE* is a toggling A/V mute. *AUTO SETUP* only works when RGB input is selected.

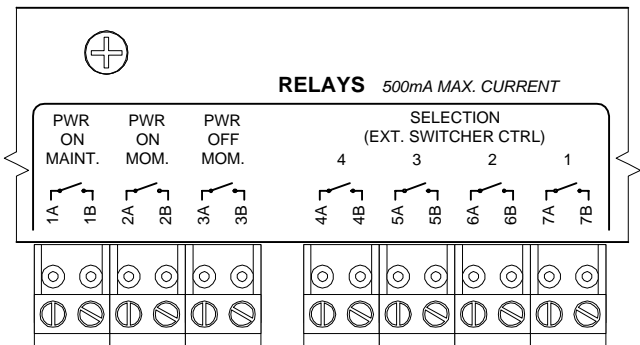
The hidden functions available for the Panasonic with this Driver are as follows:

MENU	ENTER	FREEZE
ADJUST LEFT	AV MUTE	SHUTTER
ADJUST RIGHT	DIGITAL ZOOM UP	FUNC1
ADJUST UP	DIGITAL ZOOM DOWN	AUTO SETUP
ADJUST DOWN		

**D. Relays**

The following table specifies the factory preset settings for the low-current relays found on the rear of the **SmartPanel**. The **Configuration Utility** can be used to customize these settings your installation.

Relay 1	ON Maintained
Relay 2	ON Momentary
Relay 3	OFF Momentary
Selection	Momentary; not Binary



**E. Other Presets**

The following table specifies other default factory settings for this Driver that affect is control of the Projector.

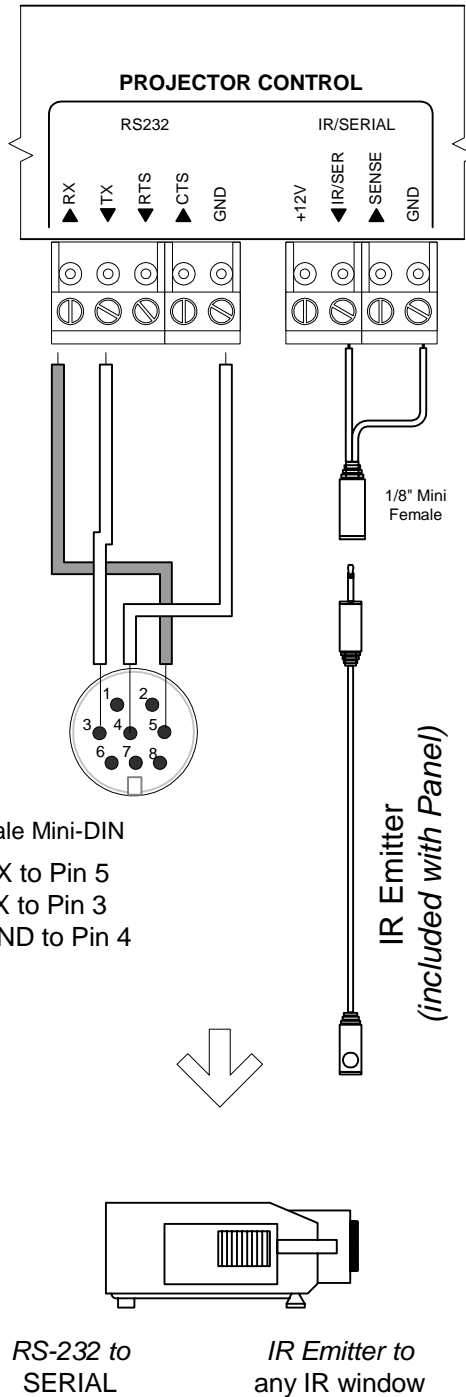
<i>Power Status Feedback Method</i>	RS-232 Polling (see note 1)
<i>Control Wiring Option</i>	RS 232 and R Emitter (see note 2)

Both RS-232 and the IR Emitter must be wired to control the Panasonic. Wired Remote is not an option as the PT-LB10VU does not have a wired remote input.

The following table specifies settings for the Panel's configurable timers. For more information on the inactivity shutdown feature and the lockout timer see the *SmartPanel Configuration and Installation Manual*

Lockout Timer	94 seconds (see note 3)
Inactivity Shutdown	Disabled

## II. CONTROL WIRING



This section specifies wiring for the Panasonic projector.

**Note:** The Panasonic PT-LB10VU projector serial port is a female 8-pin mini-DIN. This document provides instructions for terminating the RS-232 control cable directly onto a male 8-pin mini-DIN connector. If you wish to terminate the control cable on a standard DB9 connector, an adaptor cable may be separately ordered from Panasonic (Panasonic part no. *ET-ADSER*).

A. RS-232 should be connected to the port labeled *SERIAL*. Connection should be as follows:

1. Wire the Panel to a male Mini-DIN 8-pin connector as follows:

Panel RX to 5  
 Panel TX to 3  
 Panel GND to 4

2. Connect the Mini-DIN to the Panasonic projector port labeled *SERIAL*.

B. The IR Emitter should be connected to the one of the Panasonic IR windows as follows:

1. Wire the Panel to a female 1/8" Mini as shown; wire *IR/SER* to *tip* and *GND* to *ring*. Splicing and direct wiring to the IR Emitter is not recommended as it makes removal of the Panel for service more difficult.

2. Connect the included IR Emitter to the female mini.

3. Affix the IR Emitter to one of the IR windows on the projector.

**Note:** The emitter glows red when IR is emitted so wiring can be verified.

RS-232 to RS-232C

### III. TROUBLESHOOTING

Addition tips can be found in the *SmartPanel Configuration and Installation Manual*.

*The Panel does not completely control the projector..*

Full control of the projector requires wiring of both the infrared emitter *and* RS-232. Make sure that RS-232 is correctly connected through Panasonic's *SERIAL* port. Also be sure that the IR Emitter bud is firmly seated on one of the projector IR windows.

*The Panel does not do anything at all.*

When power is applied to the Panel it should run through a brief power on self-test, during which all of the Panel lights will turn on and off in sequence. If you do not see this self test, make sure power is connected correctly and that polarity is correct.

*The Panel keeps turning itself off even though the projector is on.*

The Panel turns itself off when power polling indicates that the projector is off. Check to make sure the RS-232 connection is correctly wired (it is extremely unlikely other control would work, and power polling not).

*When I try to turn the projector on, the warming indicator (red LED) blink.*

The projector is in the default configured *lockout state*, and the Panel is waiting for its internal lockout timer to expire. This feature protects the projector's bulb. Be sure to let your client know about this behavior.

### IV. TECHNICAL NOTES

1. By default, projector power is verified by polling every few seconds via the RS-232 port. Power polling can be suspended by depressing and holding the **On** key; polling will be restored when the key is released. Should the Panasonic power off, the Panel will usually detect this condition and power off within thirty seconds. Should the Panasonic power on, the Panel will usually detecting this condition and power on within ten seconds.
2. IR must be wired to control the Panasonic as it does not have a Wired Remote port.
3. The lockout timer specifies the amount of time allowed between sending *POWER OFF* and *POWER ON* to the projector (the delay allows the projector bulbs to cool before re-powering). This delay can be configured using the **Configuration Utility**; however, adjusting the lockout timer delay is **strongly discouraged** as rapid re-powering causes undue wear on the projector's bulbs.

### V. REVISION HISTORY

1. Revision A (March, 2005) *Initial release.* - BT